

FILE NOTATIONS

Entered in NID File ✓
Location Map Planned ✓
Card Indexed ✓

Checked by Chief *P.W.B.*
Approval Letter *11-5-73*
Disapproval Letter

COMPLETION DATA:

Date Well Completed *4-18-74*

OW..... WW..... TA.....

GW..... OS..... PA..... ✓

Location Inspected

Bond released

State or Fee Land

LOGS FILED

Driller's Log..... ✓

Electric Logs (No.) ✓

E..... L..... Dual I Lat..... GR-N..... Micro.....

ENC Sonic GR..... Lat..... MI-L..... Sonic.....

CBLog..... CCLog..... Others.....

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. TYPE OF WORK

DRILL ☒DEEPEN ☐PLUG BACK ☐

b. TYPE OF WELL

OIL
WELL ☐GAS
WELL ☐

OTHER

Wildcat

SINGLE
ZONE ☐MULTIPLE
ZONE ☐

2. NAME OF OPERATOR

AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR

501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.)*

At surface

1700' FNL & 1030' FEL

At proposed prod. zone

Same

14. DISTANCE IN MILES AND DIRECTION FROM NEAREST TOWN OR POST OFFICE*

6.6 miles northwest Escalante, Utah

15. DISTANCE FROM PROPOSED*

LOCATION TO NEAREST
PROPERTY OR LEASE LINE, FT.
(Also to nearest drlg. unit line, if any)

1030'

16. NO. OF ACRES IN LEASE

1280.0

17. NO. OF ACRES ASSIGNED
TO THIS WELL

40

18. DISTANCE FROM PROPOSED LOCATION*
TO NEAREST WELL, DRILLING, COMPLETED,
OR APPLIED FOR, ON THIS LEASE, FT.No other wells
on lease.

19. PROPOSED DEPTH

5600'

20. ROTARY OR CABLE TOOLS

Rotary

21. ELEVATIONS (Show whether DF, RT, GR, etc.)

6202' ungraded GL

22. APPROX. DATE WORK WILL START*

Immediately upon approval

23.

PROPOSED CASING AND CEMENTING PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	QUANTITY OF CEMENT
20"	16"	75#/ft.	250'	400 sx
13-3/4"	8-5/8" - 1-1/2"	24# - 2.75#	2000'	1000 sx
7-7/8"	5-1/2"	15.5# & 14#	5600'	400 sx

Amoco Production Company proposes to drill to 5600' to test all formations through the Cedar Mesa. Completions will be based on open hole logs. Copies of all logs run will be furnished upon reaching total depth. Copies of the location plat are attached. A 1-1/2" parasite string will be used on the intermediate casing string. A description of the blowout preventers will be sent as soon as a drilling contractor has been obtained.

Request exception to Rule C-3 because of topography. Amoco owns and controls all acreage within a 660' radius of the unorthodox location.

Forest Service approval is not necessary since this location is not on Forest land. Ranger Sonny O'Neal of Escalante has been contacted.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: If proposal is to deepen or plug back, give data on present productive zone and proposed new productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any.

24.

SIGNED

J. Arnesen

TITLE

Area Engineer

DATE

October 30, 1973

(This space for Federal or State office use)

PERMIT NO.

43-017-30062

APPROVAL DATE

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

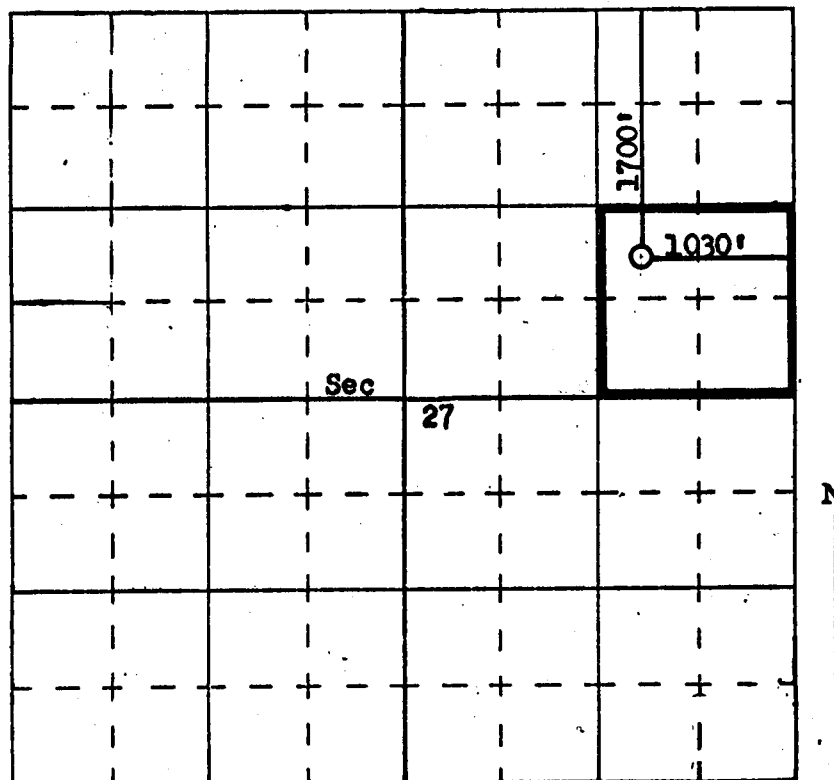
COMPANY Amoco Production Company

LEASE NSA-Ronald Hatch WELL NO. 1

SEC. 27 T. 34S R. 2E
GARFIELD COUNTY, UTAH

LOCATION 1700'FNL 1030'FEL

ELEVATION 6202 ungraded ground



SCALE—4 INCHES EQUALS 1 MILE

THIS IS TO CERTIFY THAT THE ABOVE PLAT WAS PREPARED FROM
FIELD NOTE OF ACTUAL SURVEYS MADE BY ME UNDER MY SUPER-
VISION AND THAT THE SAME ARE TRUE AND CORRECT TO THE
BEST OF MY KNOWLEDGE AND BELIEF.

SEAL:

Fred B. Kerr Jr.
Registered Land Surveyor.

Fred B. Kerr Jr.
#3950

SURVEYED October 25, 1973

FARMINGTON, N. M.

TWELVE POINT PLAN
USA RONALD H. HATCH NO. 1

The location of the proposed well is near an existing road and only .4 miles of new road will need to be constructed. Of the 4.4 miles of existing road to be used, 2.5 miles are on private land and 1.9 miles are on BLM land. This road will be widened and improved.

There are no other wells in the vicinity and there are no other roads near the location. If the well is productive, production facilities will be constructed on the well location. Water for drilling operations will be obtained from the Escalante River 4.7 miles from the location and hauled to the location by truck.

The mud in the reserve pit will be hauled and spread and bladed into the road, if permitted, or disposed of in whatever manner is approved by the regulatory body. The only camps will be the trailer houses of the pusher and the water hauler, and they will be set up on location. The nearest airstrip is approximately 2 miles east of Escalante, Utah, which is 6.6 miles southeast of the proposed location.

After the well is drilled and if it is not productive, the reserve pit will be filled and levelled. The location, pit and .4 miles new road will be seeded to BLM specifications. The .4 miles of new road will be constructed to BLM specifications. The BLM will notify the State Archaeologist so he can inspect the proposed location site before construction commences.

VICINITY MAP FOR
MINERAL PRODUCTION #1 USA - HATCH
SEC. 27-34S-26 GARFIELD CO. UTAH

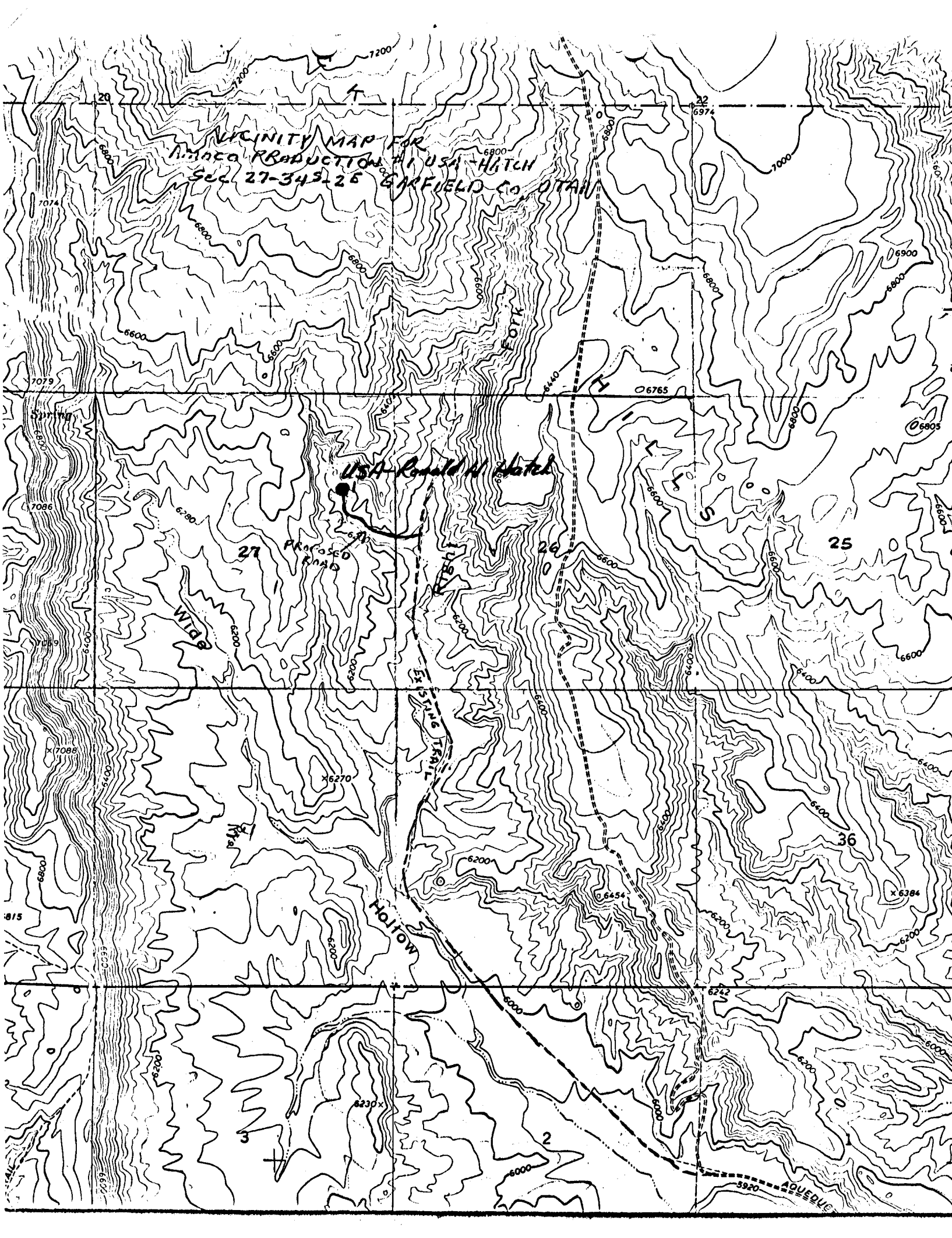
USA-Ronald H. Hatch

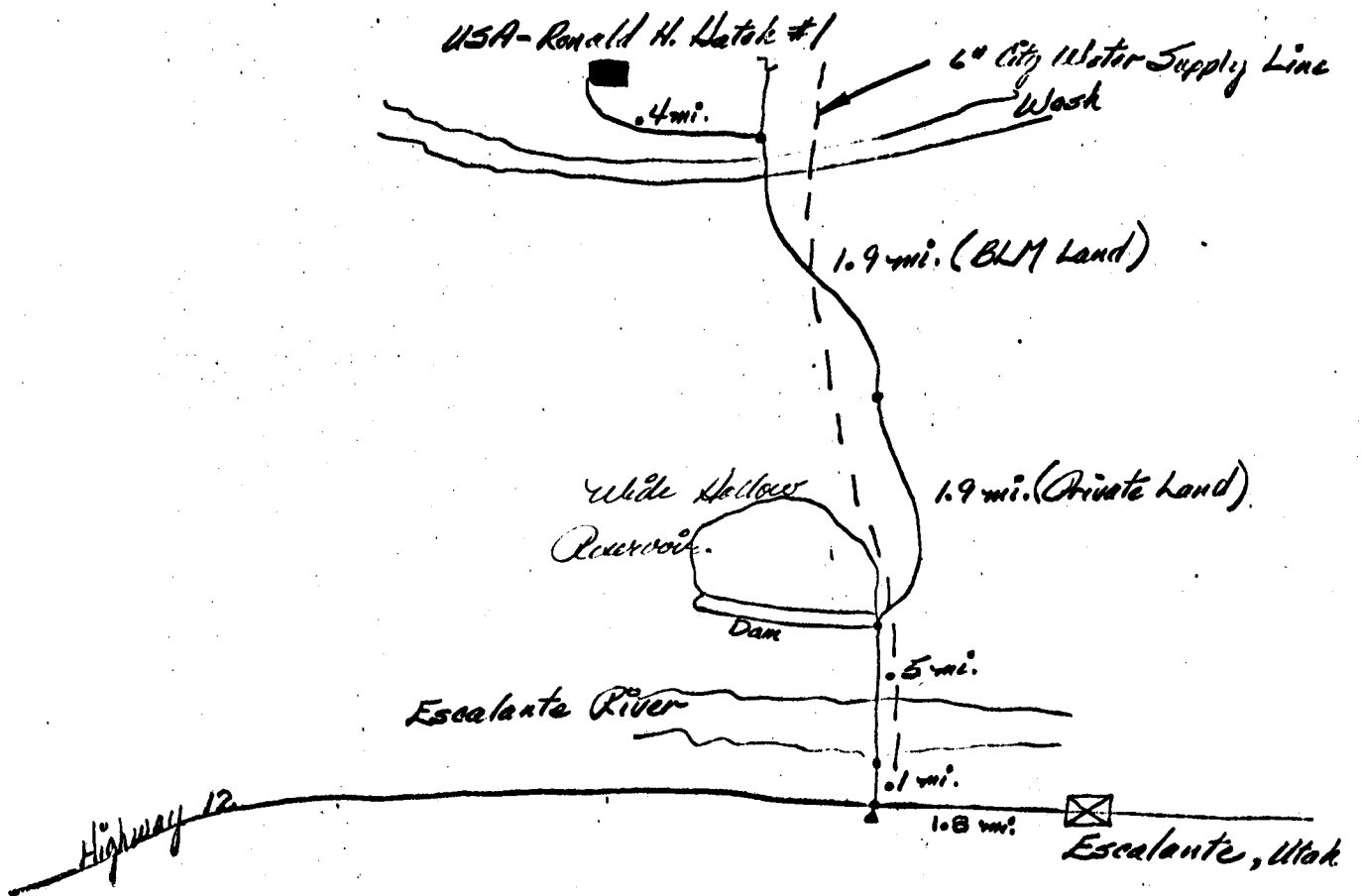
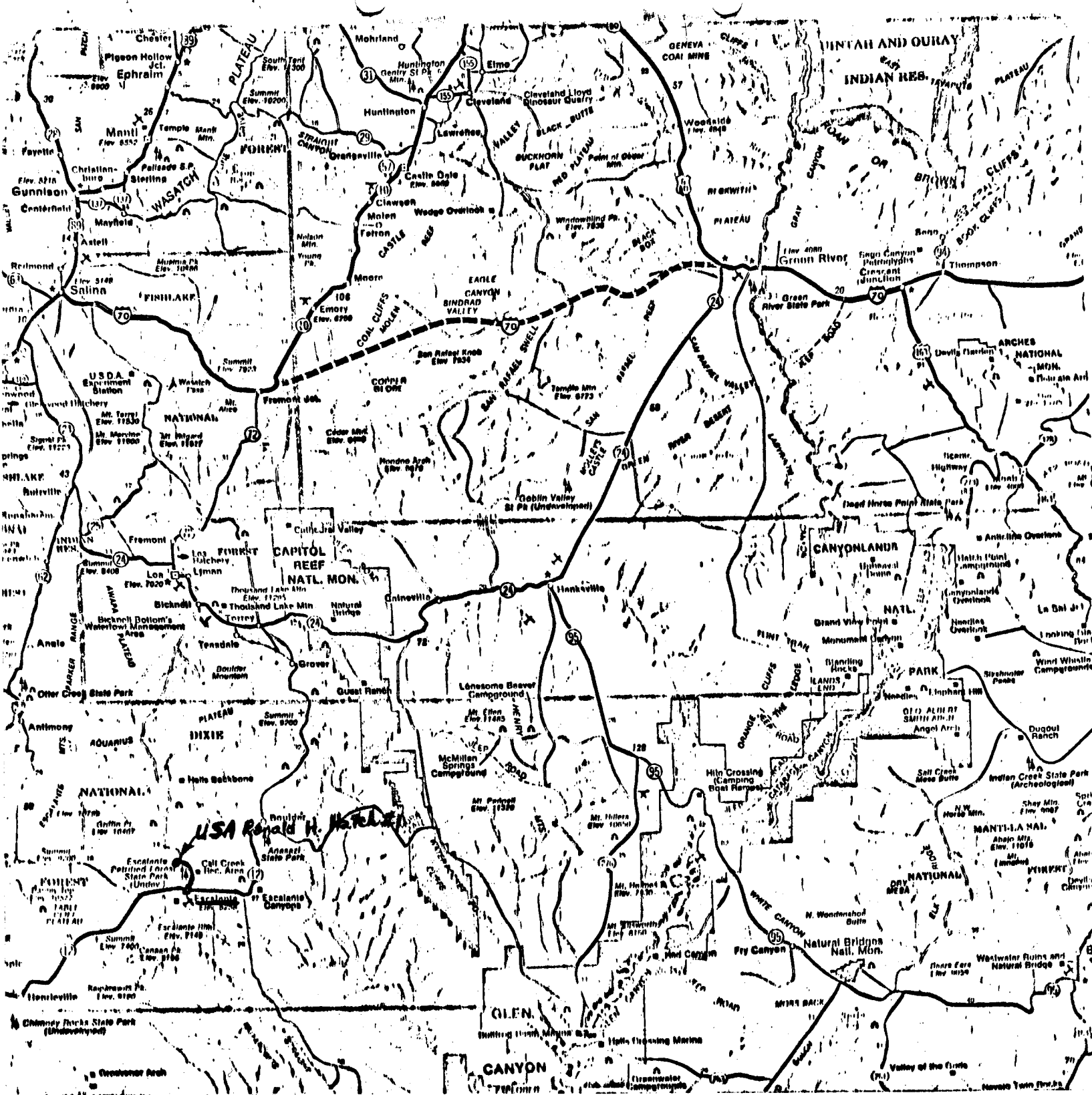
PROPOSED ROAD

EXISTING TRAIL

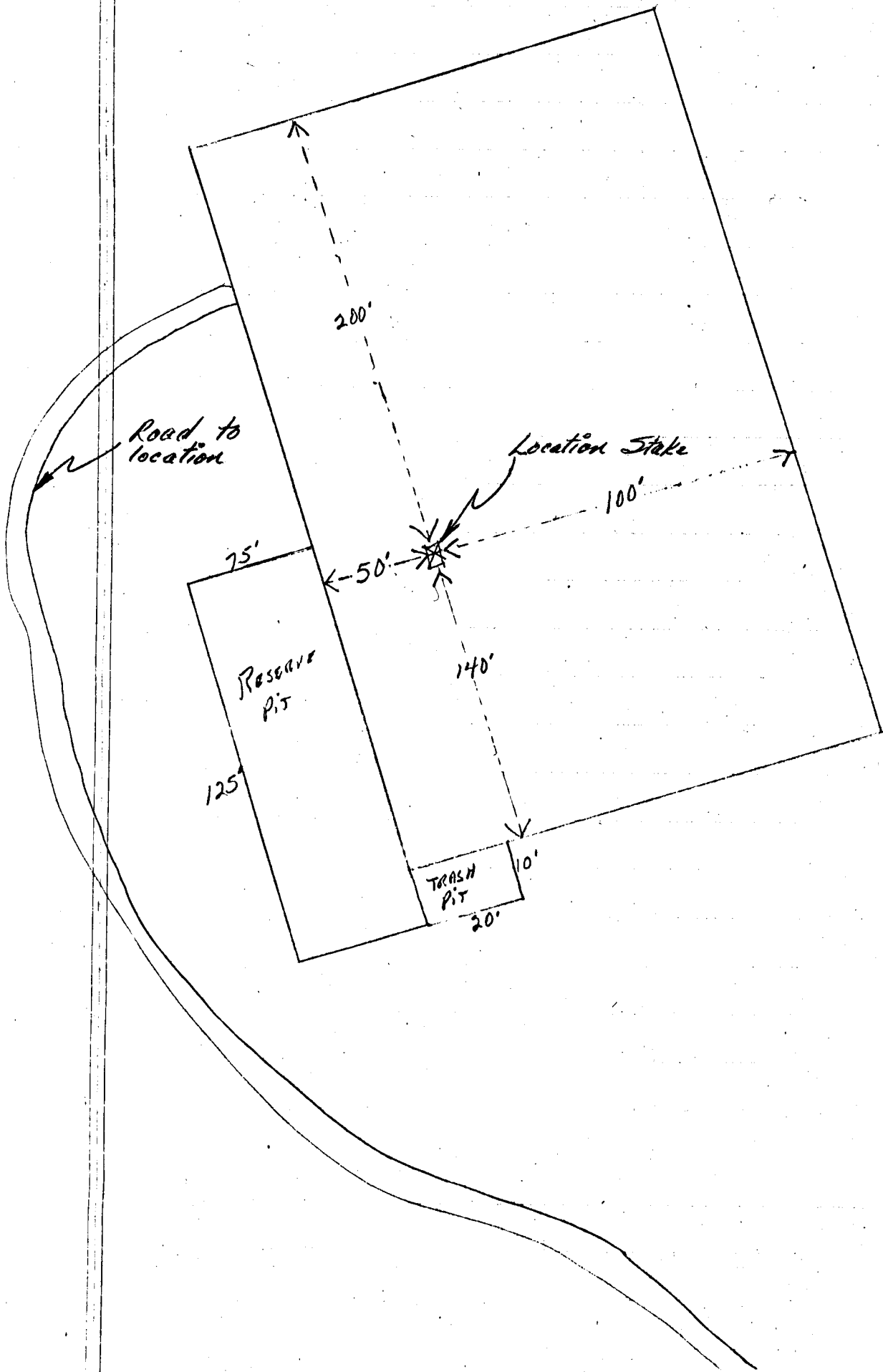
MOTOR HOLLOW

AQUEDUC





Location Plan
USA - Ronald H. Hatch No. 1



November 5, 1973

AMOCO Production Company
501 Airport Drive
Farmington, New Mexico 87401

Re: Well No. USA-Ronald W. Hatch #1
Sec. 27, T. 34 S, R. 2 E,
Garfield County, Utah

Gentlemen:

Insofar as this office is concerned, approval to drill the above referred to unorthodox well is hereby granted in accordance with Rule C-3(c), General Rules and Regulations and Rules of Practice and Procedure.

Should you determine that it will be necessary to plug and abandon this well, you are hereby requested to immediately notify the following:

PAUL W. BURCHELL - Chief Petroleum Engineer
HOME: 277-2890
OFFICE: 328-5771

Enclosed please find Form OGC-8-X, which is to be completed whether or not water sands (aquifers) are encountered during drilling. Your cooperation relative to the above will be greatly appreciated.

The API number assigned to this well is 43-017-30062.

Very truly yours,

DIVISION OF OIL & GAS CONSERVATION

CLEON B. FEIGHT
DIRECTOR

CBF:sd
cc: U.S. Geological Survey

4

March 5, 1974

AMP

MEMO FOR FILING

Re: Amoco Prod.
Hatch USA #1
Sec. 27, T. 34 S, R. 2 E,
Garfield County, Utah

On February 28, 1974, a visit was made to the above referred to well site.

Location has been made. Operator is waiting on rig. They may use the rig which is presently drilling the Skyline Federal #A-1 well or the Loffland Rig #12 which is drilling the well in the Hanksville Area.

CLEON B. FEIGHT
DIRECTOR

CBF:lp

cc: U. S. Geological Survey

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN _____
(Other instructions on re-
verse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-16326-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

USA Ronald H. Hatch

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREASE/4 NE/4 Section 27,
T-34-S, R-2-E

12. COUNTY OR PARISH

Garfield

13. STATE

Utah

1. OIL ☐ GAS ☐ OTHER **Wildcat**
WELL WELL

2. NAME OF OPERATOR

AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR

501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

1700' FNL & 1030' FNL

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6202' ungraded GL

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐

(Other)

PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON* ☐CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐

(Other)

REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT* ☐Spud & set Surface Casing ☒(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

A 15" hole was spudded at 9:00 p.m., March 6, 1974, and drilled to 260'. The hole was then reamed to 22" to a depth of 262'. The 16" casing was set at 262' with 550 sacks Class "A" cement with 2% CaCl on March 9, 1974. The cement circulated. Tested casing, hydril and manifold with 500 psig for 1/2 hour and okay.

18. I hereby certify that the foregoing is true and correct

Original Signed by
SIGNED J. ARNOLD SNELL

TITLE Area Engineer

DATE March 11, 1974

(This space for Federal or State office use)

APPROVED BY
CONDITIONS OF APPROVAL, IF ANY:

TITLE

DATE

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN PLACATE*
(Other instructions on re-
verse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-16326-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

USA Ronald H. Hatch.

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA8N/4 NE/4 Section 27,
T-34-S, R-2-S

12. COUNTY OR PARISH

Garfield

13. STATE
Utah

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)1. OIL ☐ GAS ☐
WELL WELL OTHER **Wildcat**

2. NAME OF OPERATOR

AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR

501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

1700' FNL & 1030' FNL

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6202' ungraded GL

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐(Other) ☐PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON* ☐CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐(Other) ☐REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT* ☐

Set casing

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

The 8-5/8" casing was set at 1995' with 1-1/2" parasite string at 1951'. Cemented casing with 1200 sacks Class "G" 50-50 Poz and 6X Gal followed with 150 sacks Class "G" Neat on March 16, 1974. The cement circulated. The hole was reduced to 7-7/8" at 1995' and drilling resumed.

18. I hereby certify that the foregoing is true and correct

SIGNED

J. Arnold Snell

TITLE

Area Engineer

DATE

March 21, 1974

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:



Amoco Production Company

501 Airport Drive
Farmington, New Mexico 87401

March 25, 1974

File: LOS-96-986.613

Re: Reserve Pit Spill
USA Ronald H. Hatch Well No. 1
Garfield County, Utah

Mr. Gerald R. Daniels
District Engineer
U. S. Geological Survey
8426 Federal Building
125 South State Street
Salt Lake City, Utah 84138

Dear Mr. Daniels:

Attached you will find the requested report on the reserve pit spill which occurred at the Amoco Production Company drilling well USA Ronald H. Hatch No. 1 on March 20, 1974. Since the Bureau of Land Management worked closely with Amoco on the surface use plans at this drillsite, all spill contingencies were directed through their office. Satisfactory agreement was made between BLM representative Mr. Don Coleman and Amoco representative Mr. Arlo Cleaver for handling the spill.

Yours very truly,

L. O. Speer, Jr.
L. O. Speer, Jr.
Area Superintendent

JAP:en
Attach.

cc: Bureau of Land Management
320 North First East
Kanab, Utah 84741

State of Utah ✓
Division of Oil & Gas Conservation
1588 West North Temple
Salt Lake City, Utah 84116

SPILL REPORT
RESERVE PIT SPILL
WELL USA RONALD H. HATCH NO. 1

Amoco Production Company while drilling a wildcat well in southern Utah experienced a reserve pit spill. The spill location is at the USA Ronald H. Hatch Well No. 1 drillsite in the SE/4 of the NE/4 of Section 27, T-34-S, R-2-E, Garfield County, Utah. At approximately 2:00 a.m. on March 20, 1974, part of one wall of the earthen diked reserve pit gave way and an estimated 1460 barrels of fluid escaped into a nearby wash. (Refer to photographs at end of report.)

The fluid travelled about 1.1 miles down the narrow wash. The fluid quickly soaked into the dry sandy bottom of the wash and left a thin layer of mud cake on the narrow drainage area. The end of the spill is 0.8 mile from the Wide Hollow Reservoir. No spill material directly reached the reservoir.

The onsite Amoco field representative upon learning of the spill notified the Bureau of Land Management with whom Amoco has worked closely in building the road and location for this drilling well. The BLM and the Amoco representative worked out arrangements to handle the subsequent pit repair, inspection and disposition of spill material. The office of the BLM contacted the USGS office in Salt Lake City, Utah, the morning of the spill. The USGS office in turn contacted the Amoco Production Company office in Farmington, New Mexico, and explained that the USGS office requires a full report of the reserve pit spill.

Also on the day of the spill, March 20, 1974, the following agencies were notified: Environmental Protection Agency in Denver, Colorado; Utah State Division of Health, Bureau of Environmental Health Water Quality Section in Salt Lake City, and the Utah State Oil and Gas Conservation Office in Salt Lake City.

On March 21, 1974, a representative of the BLM, Mr. Don Coleman, inspected the spill area. During the inspection it was agreed to leave the mud cake in the wash and allow normal precipitation, run off, and erosion to naturally clean up the mud residue. The residue in the wash does not constitute a threat to the adjacent environment. The spill fluid consists primarily of bentonite clay and water with about 1.1% dissolved chloride ions. The pH of 8 is only slightly over neutral. A sample of the spill fluid was obtained and conveyed to Milchem Inc., Drilling Fluids Division in Farmington, New Mexico. Milchem sent the sample to their laboratory in Dallas, Texas for complete analysis. We anticipate a report from them in about 10 days. Once we receive the report, a copy will be forwarded to the USGS office, Salt Lake City, Utah for inclusion with this report.

Origin of the spill was located on the southeastern outward edge of the reserve pit. A trapezoidal cross section of the earthen dike four feet wide at the top, one and a half feet at the bottom, and four and a half feet high gave way and was washed out. Fluid level in the pit dropped 13 inches. The irregular shaped pit is diagrammed on attachment number 1. Maximum volume of the pit for each foot of depth is approximately 1345 barrels. The pit was only slightly over half full when the accident occurred.

The exact cause of the washout cannot be determined. The pit was in no danger of overflowing because three feet of vertical capacity was still available. Particular effort was made during construction of the dike walls to avoid frozen chunks of earth. We have past experience with frozen material which can thaw and cause seepage problems. The dike material is sandy and clayey soil which has developed on the Entrada Sandstone surface crop. The material is very adequate for dike construction. The dike slopes were normal repose angle slopes. There is, however, the possibility that the washout was initiated by a soil creep movement or slumping action.

Preventive measures to guard against reoccurrence will include closer surveillance of the dike condition by drilling contractor employees and operator supervisors to observe any seepage areas that represent a potential hazard. Also to keep the level in the reserve pit at relative low levels. If approval is obtained, this can be done by using the pit fluids for road surfacing. This technique of putting reserve pit material on roads is a common widely accepted practice. Such disposal would not only minimize the chances of a spill but also diminish the volume of any potential spill. The mud tanks are jettted to the reserve pit only as frequently as needed. This practice is a necessity in the drilling operation and will be prudently executed to prohibit excessive jetting.

We feel these measures will minimize the chances for future spills of this type. Amoco is the leader in the number of wells drilled in the Rocky Mountains and well known for its prudent and safety conscious operations. We endeavor to make all our drilling operations free of potential hazards and in agreement with all the accepted standards of the industry. If we can furnish additional information regarding the contents of this report or our operations, please contact us.

USA RONALD H. HATCH WELL NO. 1
PHOTOGRAPHS OF SPILL

Only photos are attached to U.S.G.S.
copy of letter.

No. 1 Reserve Pit - looking back from break.

No. 2 Area where fluid entered wash below the
reserve pit.

No. 3 Spill fluid in wash approximately 0.5
mile from pit.

No. 4 End of spill 1.1 miles from pit. Photo
15 hours after spill. All fluid soaked
in and wash completely dry.



Amoco Production Company

ENGINEERING CHART

SHEET NO.

C/P

FILE SPILL REPORT

APPN

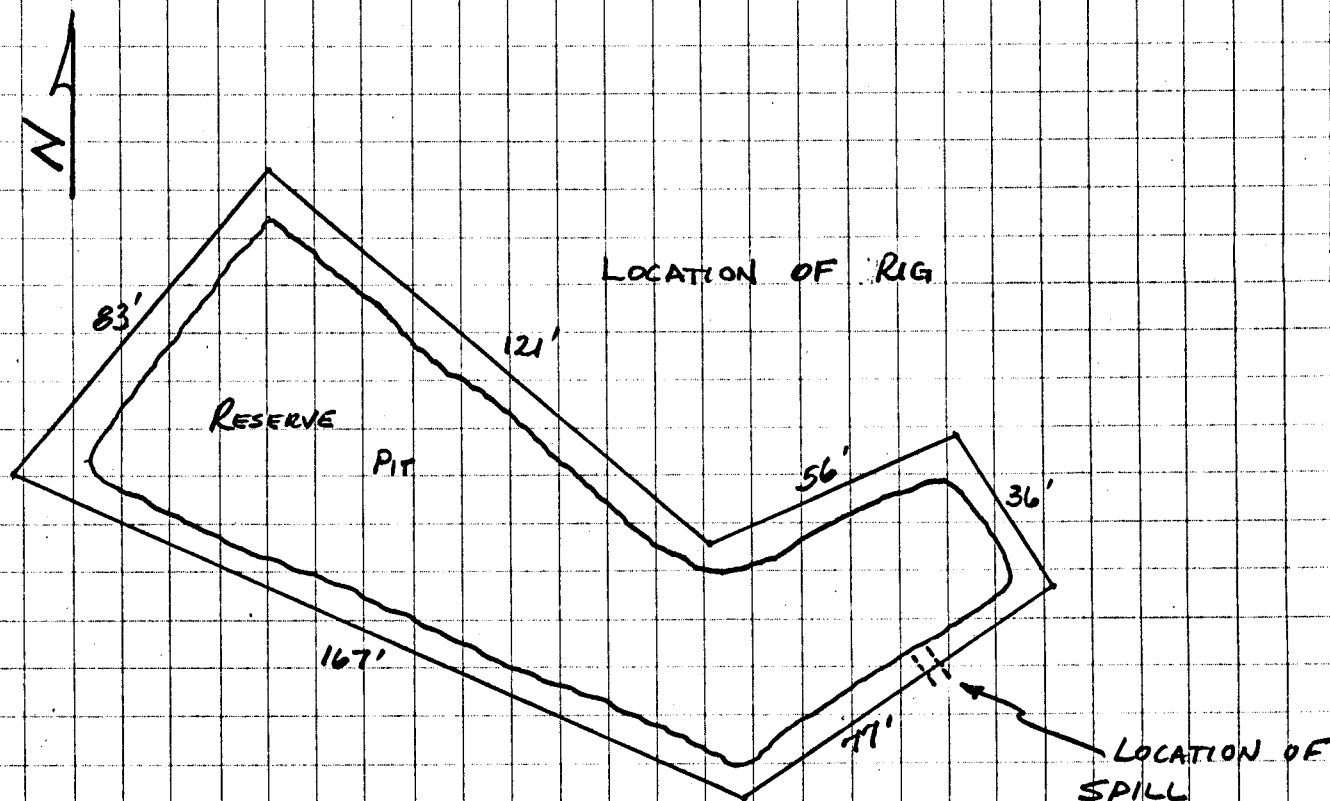
DATE 3-22-74

BY JAP

SUBJECT USA RONALD H. HATCH No1 WELL

SKETCH of RESERVE PIT

Scale 1" = 40'



Outside Area - 9425 sq feet

Inside Area - 7545 sq feet

Depth - 8 1/2 feet

Volume of inner area is approximately 1345 bbls per foot depth

SPILL VOLUME = 13" lost out of pit

$$13/12 \times 1345 = 1460 \text{ Barrels}$$

ATTACHMENT NO. 1

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-16526-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

USA Ronald H. Hatch

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA

**SE/4 NE/4 Section 27,
T-34-S, R-2-E**

12. COUNTY OR PARISH

Garfield

13. STATE

Utah

1.

OIL WELL ☐ GAS WELL ☐ OTHER ☒

Wildcat

2. NAME OF OPERATOR

AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR

501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

1700' FNL & 1030' FEL

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6202' ungraded GL

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐

FRACTURE TREAT ☐

SHOOT OR ACIDIZE ☐

REPAIR WELL ☐

(Other) ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPLETE ☐

ABANDON* ☐

CHANGE PLANS ☒

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐

FRACTURE TREATMENT ☐

SHOOTING OR ACIDIZING ☐

(Other) ☐

REPAIRING WELL ☐

ALTERING CASING ☐

ABANDONMENT* ☐

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Drilled 7-7/8" hole to a depth of 5124' and while tripping out to core on 3-24-74 stuck drill collars at approximately 4000'. Jarred and washed over fish but were unable to recover 7-7/8" bit, bottom hole reamer, two 7-7/8" square drill collars and one 6" round drill collar. We now propose to set a 200-250' sand cement plug on top of fish and sidetrack hole.

Verbal approval to do above work received in telephone conversation between Mr. Gerald Daniels, U.S.G.S., and Mr. Arnold Snell, Amoco, on 3-30-74.

18. I hereby certify that the foregoing is true and correct

SIGNED

A. Arnold Snell

TITLE

Area Engineer

DATE

4-15-74

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

STATE OF UTAH
DIVISION OF OIL & GAS CONSERVATION
DEPARTMENT OF NATURAL RESOURCES

PLUGGING PROGRAM

NAME OF COMPANY Unesco

WELL NAME State #1

API NO:

Sec. 27 Township 34S Range 2E

County Darwin

Verbal Approval Given to Plug the Above Referred to Well in the Following Manner:

Total Depth: 5600'

Casing Program:

Formation Tops:

Carnuel - 3062
Wrigate - 3352
Chule - 3620
Shinarump - 4130
Moenkopi - 4327
Towhee - 5005
Kaibab - 5140
White Rim - 5235
Towhee - 5420

Plugs Set as Follows:

Cement above 5275-5050
225' plug

100' plug @ 4180-4080

100' " @ 3400-3300

Cement Retainer @ 1965' - 878' Casing
squeeze cement below
retainer

Circulate 1 1/2" parasite string with Cement
Cap Drill BLM To Test New Formation

Date: 4/16/74 USGS approved Signed: D. Chisum

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TYPE
(Other instructions on reverse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-16526-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

USA Ronald H. Hatch

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREASE/4 NE/4 Section 27,
T-34-S, R-2-E

12. COUNTY OR PARISH 13. STATE

Garfield

Utah

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER Wildcat	7. UNIT AGREEMENT NAME
2. NAME OF OPERATOR AMOCO PRODUCTION COMPANY	8. FARM OR LEASE NAME USA Ronald H. Hatch
3. ADDRESS OF OPERATOR 501 Airport Drive, Farmington, New Mexico 87401	9. WELL NO. 1
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface 1700' FNL & 1030' FEL	10. FIELD AND POOL, OR WILDCAT Wildcat
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.) 6202' ungraded GL
12. COUNTY OR PARISH Garfield	13. STATE Utah

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF ☐FRACTURE TREAT ☐SHOOT OR ACIDIZE ☐REPAIR WELL ☐

(Other)

PULL OR ALTER CASING ☐MULTIPLE COMPLETE ☐ABANDON* ☐CHANGE PLANS ☐

SUBSEQUENT REPORT OF:

WATER SHUT-OFF ☐FRACTURE TREATMENT ☐SHOOTING OR ACIDIZING ☐

(Other)

REPAIRING WELL ☐ALTERING CASING ☐ABANDONMENT* ☐**Change Plans - Sidetrack hole** ☒

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

On 3-31-74 spotted 75 sacks Class "A" cement with 15% sand and 2% CaCl on top of fish at 3872'. Waited on cement to set 12 hours. Ran drill pipe and tagged plug at 3783'. Dressed plug to 3791'. Spotted 60 sacks Class "A" cement with 15% sand and 2% CaCl at 3791' up. Waited on cement to set total 36 hours. Ran tubing and bit and drilled solid cement 3728' and 3734'. Tripped in with Dyna-Dri and commenced drilling sidetrack hole at 3734'. Continued drilling to a depth of 5128' where core barrel was picked up in preparation to core well.

18. I hereby certify that the foregoing is true and correct

SIGNED

J. Arnold Smith

TITLE

Area Engineer

DATE

April 16, 1974

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

SUBMIT IN DUPLICATE*

(See other instructions on reverse side)

Form approved.
Budget Bureau No. 42-R355.5.

5. LEASE DESIGNATION AND SERIAL NO.

U-16526-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

USA Ronald H. Hatch

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat

11. SEC., T., R., M., OR BLOCK AND SURVEY OR AREA

SE/4 NE/4 Section 27,
T34-S, R-2-E

12. COUNTY OR PARISH

Garfield

13. STATE

Utah

1a. TYPE OF WELL:

OIL

☐

GAS

☐

DRY

☒

Other

b. TYPE OF COMPLETION:

NEW

☐

WORK

☐

DEEP-

☐

PLUG

☐

DIFF.

☐

Other

Dry Hole

2. NAME OF OPERATOR

AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR

501 Airport Drive, Farmington, New Mexico 87401

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements)*

At surface 1700' FNL & 1030' FEL

At top prod. interval reported below Same

At total depth Same

14. PERMIT NO.

DATE ISSUED

15. DATE SPUDDED

3-6-74

16. DATE T.D. REACHED

4-15-74

17. DATE COMPL. (Ready to prod.)

4-18-74 (PKA)

18. ELEVATIONS (DF, REB, RT, GR, ETC.)*

6206' CL, 6220' KB

19. ELEV. CASINGHEAD

-

20. TOTAL DEPTH, MD & TVD

5600' KB

21. PLUG, BACK T.D., MD & TVD

-

22. IF MULTIPLE COMPL., HOW MANY*

-

23. INTERVALS DRILLED BY

→

ROTARY TOOLS

O-TD

CABLE TOOLS

-

24. PRODUCING INTERVAL(S), OF THIS COMPLETION—TOP, BOTTOM, NAME (MD AND TVD)*

Dry Hole

25. WAS DIRECTIONAL SURVEY MADE

Yes; at sidetrack point only.

26. TYPE ELECTRIC AND OTHER LOGS RUN

Induction Electric, BHC Sonic-GR, Continuous Dipmeter, Sidewall Neutron

27. WAS WELL CORED

Yes

28. CASING RECORD (Report all strings set in well)

Forsoity

CASING SIZE	WEIGHT, LB./FT.	DEPTH SET (MD)	HOLE SIZE	CEMENTING RECORD	AMOUNT PULLED
16"	65#/ft.	262'	22"	550 sx (circ.)	None
8-5/8"	29#/ft.	1995'	14-3/4"	1350 sx (circ.)	None
1-1/2"	2.90#/ft.	1951'			None
(Parasite)					

29. LINER RECORD

SIZE	TOP (MD)	BOTTOM (MD)	SACKS CEMENT*	SCREEN (MD)	SIZE	DEPTH SET (MD)	PACKER SET (MD)

31. PERFORATION RECORD (Interval, size and number)

None

32. ACID, SHOT, FRACTURE, CEMENT SQUEEZE, ETC.

DEPTH INTERVAL (MD)	AMOUNT AND KIND OF MATERIAL USED

33.*

PRODUCTION

DATE FIRST PRODUCTION		PRODUCTION METHOD (Flowing, gas lift, pumping—size and type of pump)				WELL STATUS (Producing or shut-in)	
		Dry Hole				Abandoned	
DATE OF TEST	HOURS TESTED	CHOKE SIZE	PROD'N. FOR TEST PERIOD	OIL—BBL.	GAS—MCF.	WATER—BBL.	GAS-OIL RATIO
			→				
FLOW. TUBING PRESS.	CASING PRESSURE	CALCULATED 24-HOUR RATE	OIL—BBL.	GAS—MCF.	WATER—BBL.	OIL GRAVITY-API (CORR.)	
		→					
34. DISPOSITION OF GAS (Sold, used for fuel, vented, etc.)						TEST WITNESSED BY	

35. LIST OF ATTACHMENTS

36. I hereby certify that the foregoing and attached information is complete and correct as determined from all available records

SIGNED

J. Donald Shell

TITLE

Area Engineer

DATE April 29, 1974

*(See Instructions and Spaces for Additional Data on Reverse Side)

INSTRUCTIONS

General: This form is designed for submitting a complete and correct well completion report and log on all types of lands and leases to either a Federal agency or a State agency, or both, pursuant to applicable Federal and/or State laws and regulations. Any necessary special instructions concerning the use of this form and the number of copies to be submitted, particularly with regard to local, area, or regional procedures and practices, either are shown below or will be issued by, or may be obtained from, the local Federal and/or State office. See instructions on items 22 and 24, and 33, below regarding separate reports for separate completions.

If not filed prior to the time this summary record is submitted, copies of all currently available logs (drillers, geologists, sample and core analysis, all types electric, etc.), formation and pressure tests, and directional surveys, should be attached hereto, to the extent required by applicable Federal and/or State laws and regulations. All attachments should be listed on this form, see item 35.

Item 4: If there are no applicable State requirements, locations on Federal or Indian land should be described in accordance with Federal requirements. Consult local State or Federal office for specific instructions.

Item 18: Indicate which elevation is used as reference (where not otherwise shown) for depth measurements given in other spaces on this form and in any attachments.

Items 22 and 24: If this well is completed for separate production from more than one interval zone (multiple completion), so state in item 22, and in item 24 show the producing interval, or intervals, top(s), bottom(s) and name(s) (if any) for only the interval reported in item 33. Submit a separate report (page) on this form, adequately identified, for each additional interval to be separately produced, showing the additional data pertinent to such interval.

Item 29: "Sacks Cement": Attached supplemental records for this well should show the details of any multiple stage cementing and the location of the cementing tool.

Item 33: Submit a separate completion report on this form for each interval to be separately produced. (See instruction for items 22 and 24 above.)

MAY 6 1974

37. SUMMARY OF POROUS ZONES: SHOW ALL IMPORTANT ZONES OF POROSITY AND CONTENTS THEREOF; CORED INTERVALS; AND ALL DRILL-STEM TESTS, INCLUDING DEPTH INTERVAL TESTED, CUSHION USED, TIME TOOL OPEN, FLOWING AND SHUT-IN PRESSURES, AND RECOVERIES				38. GEOLOGIC MARKERS	
FORMATION	TOP	BOTTOM	DESCRIPTION, CONTENTS, ETC.	NAME	MEAS. DEPTH TRUE VERT. DEPTH
Core #1: 5124-44'.	Core bbl. jammed.	Core bbl. jammed.	Recovered 20' core with 3' of core containing dead oil stains.	Navajo	1615'
Core #2: 5144-5204'.	Recovered 60'	Recovered 60'	core with no shows.	Wingate	3352'
DST #1: 5098-5150'.	Tool open 15 min. with fair blow increasing to good blow in 4 min. Closed tool for 30 min. first closed in pressure.	Tool open 15 min. with fair blow increasing to good blow in 4 min. Closed tool for 30 min. first closed in pressure.	Opened tool for 90 min. second flow with a weak blow in-creasing to a good blow at end of 90 min. flow. Recovered 373' of water cut drilling mud, 1119' water and 1241' slight gas cut brackish water. No show oil. Initial hydrostatic 2030 psi; 15 min. IFP 340; 30 min. ISIP 1620 psi; 90 min. FFP 1063 psi; 90 min FSIP 1535 psi, final hydrostatic 1928 psi.	Chinle	3620'
				Shinarump	4130'
				Meankopi	4327'
				Tempowap	5005'
				Kaibab	5140'
				White Rim	5235'
				Torowap	5420'
				TD	5600'



CHEM LAB

WATER ANALYSIS EXCHANGE REPORT

MEMBER Amoco Production Company
OPERATOR Amoco Production Company
WELL NO. USA Hatch No. 1
FIELD Wildcat
COUNTY Garfield
STATE Utah

LAB NO. 12598-3 REPORT NO. _____
LOCATION SE NE 27-34S-2E
FORMATION Tempowep
INTERVAL 5098-5150
SAMPLE FROM DST No. 1 (Middle - 4100')
DATE May 9, 1974

REMARKS & CONCLUSIONS: Very cloudy water with cloudy filtrate

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	2392	104.05	Sulfate	2600	54.08
Potassium	423	10.83	Chloride	2900	81.78
Lithium	-	-	Carbonate	0	-
Calcium	906	45.21	Bicarbonate	2721	44.62
Magnesium	248	20.39	Hydroxide	-	-
Iron	present	-	Hydrogen sulfide	-	-
Total Cations			Total Anions		
180.48			180.45		

Total dissolved solids, mg/l 10809
NaCl equivalent, mg/l 9106
Observed pH 7.3

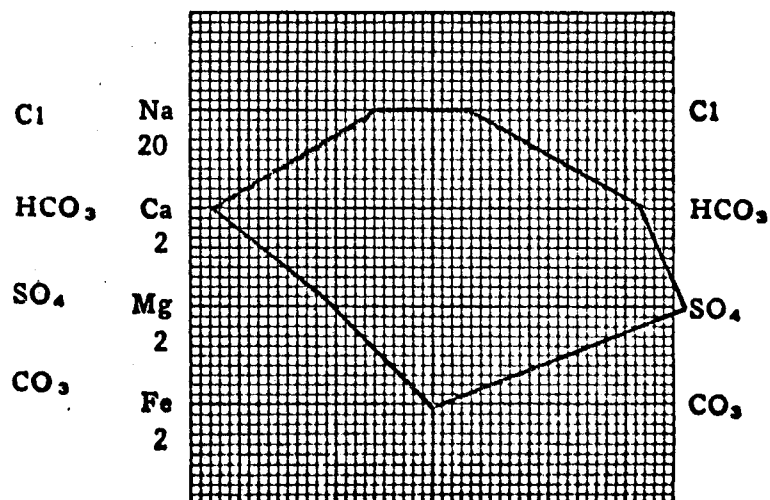
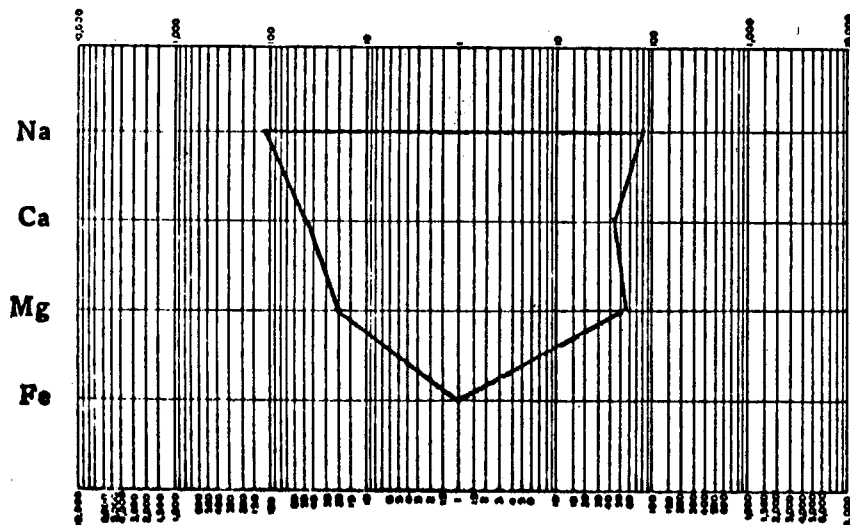
Specific resistance @ 68° F.:
Observed 0.88 ohm-meters
Calculated 0.74 ohm-meters

WATER ANALYSIS PATTERNS

MEQ per unit

LOGARITHMIC

STANDARD



(Na value in above graphs includes Na, K, and Li)
NOTE: Mg/l = Milligrams per liter. Meq/l = Milligram equivalents per liter
Sodium chloride equivalent by Dunlop & Hawthorne calculation from components

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEYSUBMIT IN TR. (CATE*)
(Other instructions on re-
verse side)Form approved.
Budget Bureau No. 42-R1424.

5. LEASE DESIGNATION AND SERIAL NO.

U-16526-A

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

7. UNIT AGREEMENT NAME

8. FARM OR LEASE NAME

USA Ronald H. Hatch

9. WELL NO.

1

10. FIELD AND POOL, OR WILDCAT

Wildcat11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA**SE/4 NE/4 Section 27,
T-34-S, R-2-E**

12. COUNTY OR PARISH

Garfield

13. STATE

Utah**SUNDRY NOTICES AND REPORTS ON WELLS**(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1.

OIL WELL ☐ GAS WELL ☐ OTHER **Dry Hole (Wildcat)**

2. NAME OF OPERATOR

AMOCO PRODUCTION COMPANY

3. ADDRESS OF OPERATOR

501 Airport Drive, Farmington, New Mexico 874014. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface**1700' FNL & 1030' FEL**

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, RT, GR, etc.)

6206' GL, 6220' KB

16.

Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

☐
☐
☐
☐

PULL OR ALTER CASING

☐
☐
☐
☐

FRACTURE TREAT

MULTIPLE COMPLETE

SHOOT OR ACIDIZE

ABANDON*

REPAIR WELL

CHANGE PLANS

(Other)

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

☐
☐
☐

REPAIRING WELL

☐
☐
☒

FRACTURE TREATMENT

ALTERING CASING

SHOOTING OR ACIDIZING

ABANDONMENT*

(Other)

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Due to finding no commercial quantities of hydrocarbons, Amoco plugged and abandoned the subject well as follows:

1. Spotted 100 sacks Class "G" cement with 2% CaCl₂ from 5275-5030'.
2. Spotted 40 sacks Class "G" cement with 2% CaCl₂ from 4180-4080'.
3. Spotted 40 sacks Class "G" cement with 2% CaCl₂ from 3400-3300'.
4. Set cement retainer at 1965' and squeezed below retainer with 35 sacks Class "G" cement with 2% CaCl₂.
5. Pumped 25 sacks Class "G" cement with 2% CaCl₂ down 1-1/2" parasite string.
6. Cut off wellhead, erected P&A marker and returned location to native state.
Location work complies with BLM specifications set by field representative.

NOTE: Well turned over to BLM by Amoco for possible future use as water supply well per Mr. Edgar W. Gwynn, U.S.G.S., letter of April 16, 1974.

18. I hereby certify that the foregoing is true and correct

SIGNED

J. Arnold Hill

TITLE

Area Engineer

DATE

April 30, 1974

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:



Amoco Production Company

501 Airport Drive
Farmington, New Mexico 87401

May 10, 1974

File: LOS-149-986.613

Re: Reserve Pit Spill
USA Ronald H. Hatch No. 1
Garfield County, Utah

Mr. Gerald R. Daniels
District Engineer
U. S. Geological Survey
8426 Federal Building
125 South State Street
Salt Lake City, Utah 84138

Dear Mr. Daniels:

As stated in our letter of March 25, 1974, we are attaching an analysis of the fluid which was lost from the reserve pit on the USA Ronald H. Hatch Well No. 1.

Yours very truly,

L. O. Speer, Jr.
Area Superintendent

JWC:en
Attachment

cc: Bureau of Land Management
320 North First East
Kanab, Utah 84741

State of Utah
Division of Oil & Gas Conservation
1588 West North Temple
Salt Lake City, Utah 84116



RESEARCH LABORATORY SERVICE REPORT

3920 ESSEX LANE - BOX 22111
HOUSTON, TEXAS 77027

ANALYSIS OF WATER LOST FROM PIT
SUBJECT OF REPORT

LSR #0926

SRD-1298

3-28-74

REPORT NUMBER

DATE

AMOCO PRODUCTION CO. U.S.A. R.H. HATCH #1

R. K. Hill

SECTION SUPERVISOR

GARFIELD COUNTY, UTAH, WILDCAT

REQUESTED BY Don Linder

FOR Amoco Production Co.

The reserve pit broke at Amoco's U.S.A. R.H. Hatch #1 and the water ran down the canyon. A sample of the fluid was collected at 9:20 am on March 20, 1974 from the end of the spill, 1.2 miles from the pit. This sample was received for chemical analysis.

Chemical analysis of the sample showed it to contain the following:

Calcium ion content, ppm	470
Magnesium ion content, ppm	41
Potassium ion content, ppm	ND (a)
Chloride ion content, ppm	9,700
Bicarbonate ion content, ppm	114
Carbonate ion content, ppm	none
Hydroxide ion content, ppm	none
pH	7.00
Oil Content	ND (b)

- (a) No potassium detected by tetraphenylboron, less than 5 ppm apparently present.
- (b) No oil detected by absorbance of a CCl_4 extract at 2950 cm^{-1} frequency, and indicates less than 1 mg/liter present.

The analysis shows the fluid sample to be a salt water, with a salt concentration approximately half that of seawater.

H. F. Young

R. K. Hill *RKH*

:dmc

cc: Jerry Pope, Amoco Production Co., via Linder ✓
Don Linder
Danny Ried
Bill Holman (2)

STATE OF UTAH
DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL AND GAS CONSERVATION
1588 West North Temple
Salt Lake City, Utah 84116

REPORT OF WATER ENCOUNTERED DURING DRILLING

Well Name and Number USA Ronald H. Hatch No. 1
Operator AMOCO PRODUCTION COMPANY
Address 501 Airport Drive, Farmington, New Mexico 87401
Contractor Loffland Brothers Drilling Company
Address 1216 E. Bloomfield Rd., Farmington, New Mexico 87401
Location SE 1/4, NE 1/4, Sec. 27, T. 34 NX, R. 2 E., Garfield County.
S. NX

Water Sands:

	<u>Depth:</u> From -	To -	<u>Volume:</u> Flow Rate or Head -	<u>Quality:</u> Fresh or Salty -
1.	<u>5098'</u>	<u>5150'</u>	<u>2360' water from DST #1</u>	<u>See analysis attached.</u>
2.	<u></u>	<u></u>	<u></u>	<u></u>
3.	<u></u>	<u></u>	<u></u>	<u></u>
4.	<u></u>	<u></u>	<u></u>	<u></u>
5.	<u></u>	<u></u>	<u></u>	<u></u>

(Continue on Reverse Side if Necessary)

Formation Tops:

Navajo	1615'	Moenkopi	4327'	Toroweap	5420'
Wingate	3352'	Tempoweap	5005'	TD	5600'
Chinle	3620'	Kaibab	5140'		
Shinarump	4130'	White Rim	5235'		

NOTE: (a) Upon diminishing supply of forms, please inform this office.
(b) Report on this form as provided for in Rule C-20, General Rules and Regulations and Rules of Practice and Procedure, (see back of this form)
(c) If a water quality analysis has been made of the above reported zone, please forward a copy along with this form.



CHEM LAB

WATER ANALYSIS EXCHANGE REPORT

MEMBER Amoco Production Company
 OPERATOR Amoco Production Company
 WELL NO. USA Hatch No. 1
 FIELD Wildcat
 COUNTY Garfield
 STATE Utah

LAB NO. 12598-1 REPORT NO. _____
 LOCATION SE NE. 27-34S-2E
 FORMATION Tempoweeep
 INTERVAL 5098-5150
 SAMPLE FROM DST No. 1 (Top - 2365')
 DATE May 9, 1974

REMARKS & CONCLUSIONS: Very cloudy water with cloudy filtrate

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	1280	55.67	Sulfate	2125	44.20
Potassium	84	2.15	Chloride	490	13.82
Lithium	-	-	Carbonate	0	-
Calcium	329	16.42	Bicarbonate	1415	23.21
Magnesium	85	6.99	Hydroxide	-	-
Iron	present	-	Hydrogen sulfide	-	-
Total Cations		81.23	Total Anions		81.23

Total dissolved solids, mg/l 5090
 NaCl equivalent, mg/l 3781
 Observed pH 7.3

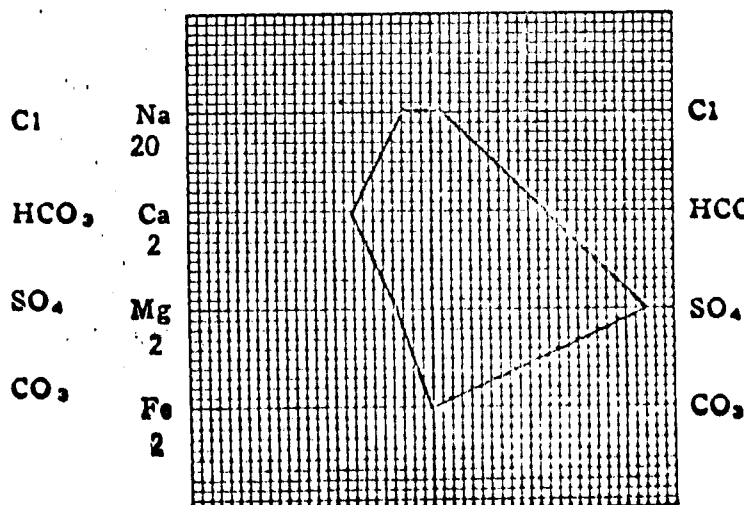
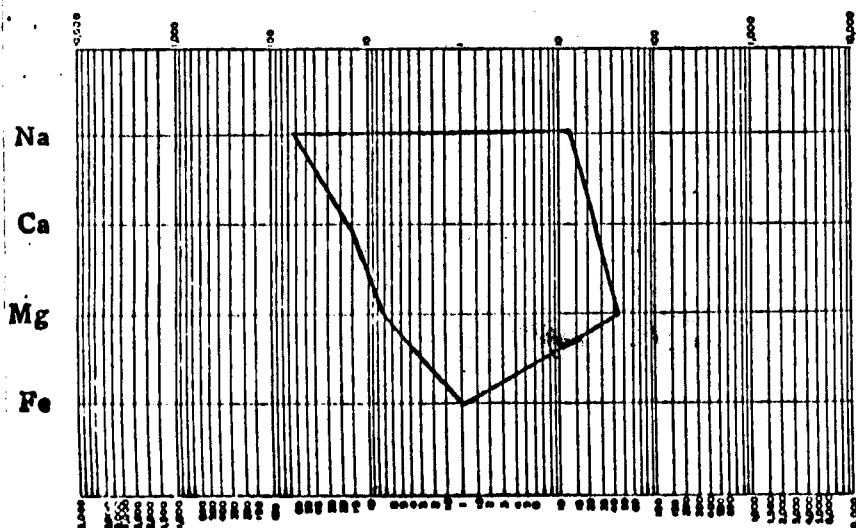
Specific resistance @ 68° F.:
 Observed 2.20 ohm-meters
 Calculated 1.70 ohm-meters

WATER ANALYSIS PATTERNS

MEQ per unit

LOGARITHMIC

STANDARD



(Na value in above graphs includes Na, K, and Li)
 NOTE: Mg/l = Milligrams per liter. Meq/l = Milligram equivalents per liter



CHEM LAB

WATER ANALYSIS EXCHANGE REPORT

MEMBER Amoco Production Company
OPERATOR Amoco Production Company
WELL NO. USA Hatch No. 1
FIELD Wildcat
COUNTY Garfield
STATE Utah

LAB NO. 12598-2 REPORT NO. _____
LOCATION SE NE 27-34S-2E
FORMATION Tempoweeep
INTERVAL 5098-5150
SAMPLE FROM DST No. 1 (Middle - 2738')
DATE May 9, 1974

REMARKS & CONCLUSIONS: Very cloudy water with cloudy filtrate

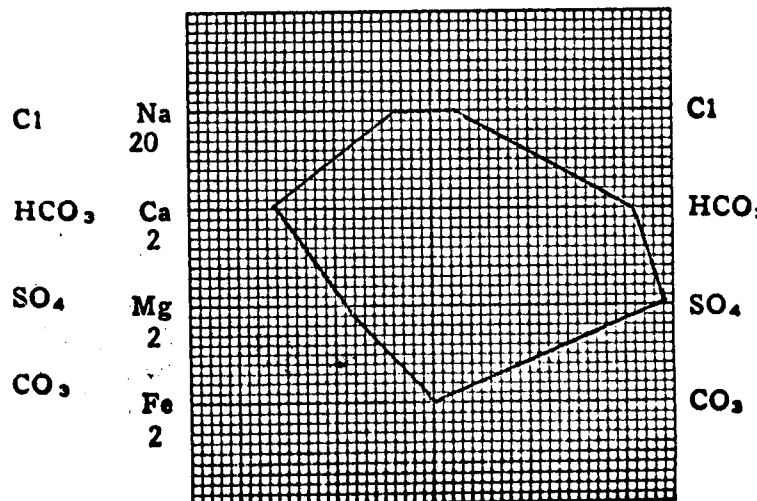
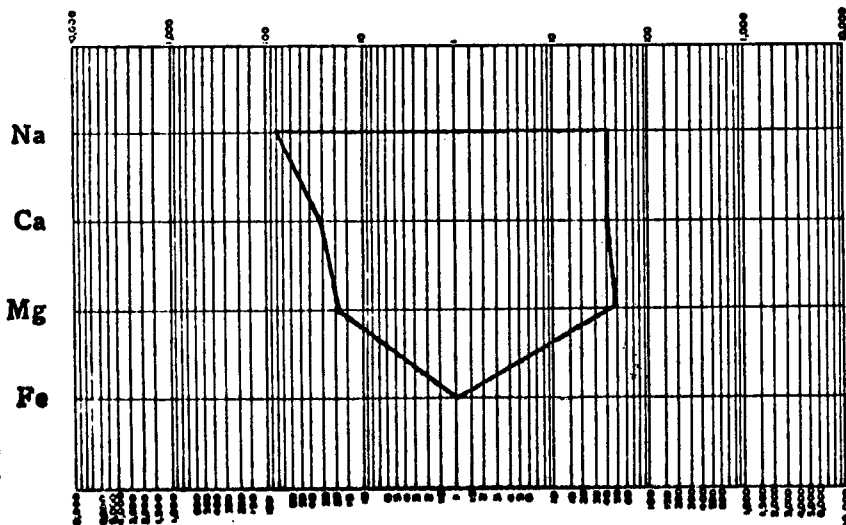
Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	1742	75.78	Sulfate	2325	48.36
Potassium	257	6.58	Chloride	1500	42.30
Lithium	-	-	Carbonate	0	-
Calcium	637	31.79	Bicarbonate	2550	41.82
Magnesium	223	18.33	Hydroxide	-	-
Iron	present	-	Hydrogen sulfide	-	-
Total Cations			Total Anions		
132.48			132.48		
Total dissolved solids, mg/l			Specific resistance @ 68° F.:		
7940			Observed		
NaCl equivalent, mg/l			1.16 ohm-meters		
6401			Calculated		
Observed pH			1.04 ohm-meters		
7.1					

WATER ANALYSIS PATTERNS

MEQ per unit

LOGARITHMIC

STANDARD



(Na value in above graphs includes Na, K, and Li)
NOTE: Mg/l = Milligrams per liter. Meq/l = Milligram equivalents per liter
Sodium chloride equivalent by Dunlop & Hawthorne calculation from components



CHEM LAB

WATER ANALYSIS EXCHANGE REPORT

RECEIVED

MAY 13 1974

FARMINGTON
AREA

1	AS	288
	AAS	
2	AE	
	AA	
3	ACD	2.4
4	ADH	2.4

MEMBER Amoco Production Company
 OPERATOR Amoco Production Company
 WELL NO. USA Hatch No. 1
 FIELD Wildcat
 COUNTY Garfield
 STATE Utah

LAB NO. 12598-1 REPORT NO. 42114
 LOCATION SE NE. 27-34S-2E
 FORMATION Tempowee
 INTERVAL 5098-5150
 SAMPLE FROM DST No. 1 (Top - 2365')
 DATE May 9, 1974

ures 525.4
 ce. amporay
 CL coin

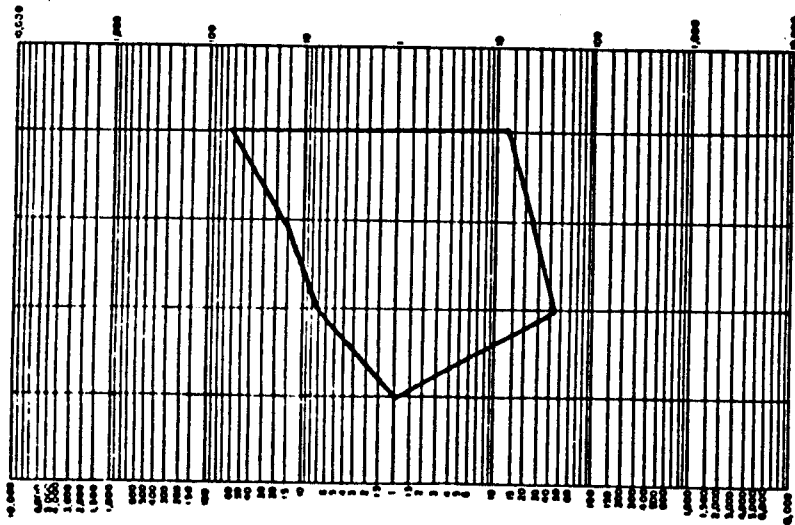
REMARKS & CONCLUSIONS: Very cloudy water with cloudy filtrate

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	1280	55.67	Sulfate	2125	44.20
Potassium	84	2.15	Chloride	490	13.82
Lithium	-	-	Carbonate	0	-
Calcium	329	16.42	Bicarbonate	1415	23.21
Magnesium	85	6.99	Hydroxide	-	-
Iron	present	-	Hydrogen sulfide	-	-
Total Cations		81.23	Total Anions		81.23
Total dissolved solids, mg/l			Specific resistance @ 68° F.:		
NaCl equivalent, mg/l			Observed		
Observed pH			Calculated		
	5090			2.20	ohm-meters
	3781			1.70	ohm-meters
	7.3				

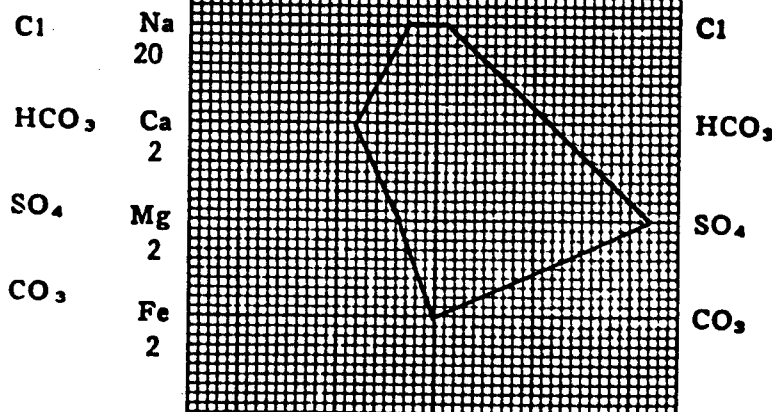
WATER ANALYSIS PATTERNS

MEQ per unit

LOGARITHMIC



STANDARD



(Na value in above graphs includes Na, K, and Li)
 NOTE: Mg/l=Milligrams per liter. Meq/l=Milligram equivalents per liter
 Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components



CHEM LAB

WATER ANALYSIS EXCHANGE REPORT

MEMBER Amoco Production Company
 OPERATOR Amoco Production Company
 WELL NO. USA Hatch No. 1
 FIELD Wildcat
 COUNTY Garfield
 STATE Utah

LAB NO. 12598-2 REPORT NO. _____
 LOCATION SE NE 27-34S-2E
 FORMATION Tempoweeep
 INTERVAL 5098-5150
 SAMPLE FROM DST No. 1 (Middle - 2738')
 DATE May 9, 1974

REMARKS & CONCLUSIONS: Very cloudy water with cloudy filtrate

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	1742	75.78	Sulfate	2325	48.36
Potassium	257	6.58	Chloride	1500	42.30
Lithium	-	-	Carbonate	0	-
Calcium	637	31.79	Bicarbonate	2550	41.82
Magnesium	223	18.33	Hydroxide	-	-
Iron	present	-	Hydrogen sulfide	-	-
Total Cations		132.48	Total Anions		132.48

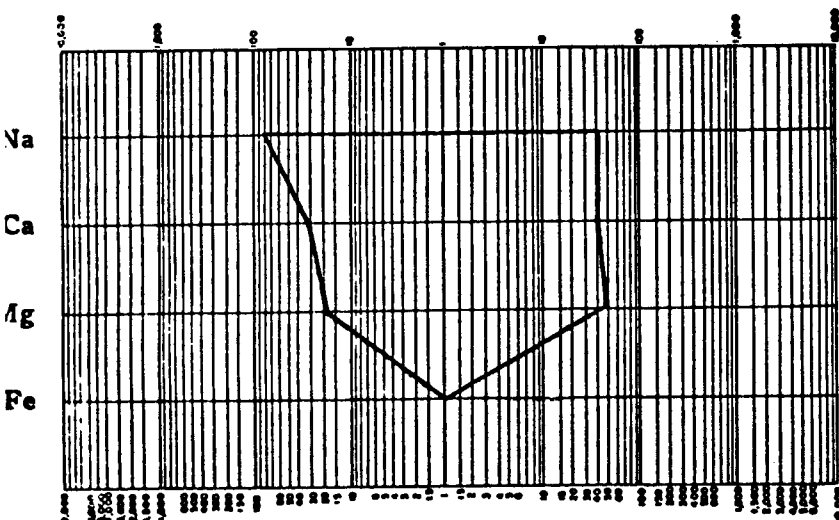
Total dissolved solids, mg/l 7940
 NaCl equivalent, mg/l 6401
 Observed pH 7.1

Specific resistance @ 68° F.:
 Observed 1.16 ohm-meters
 Calculated 1.04 ohm-meters

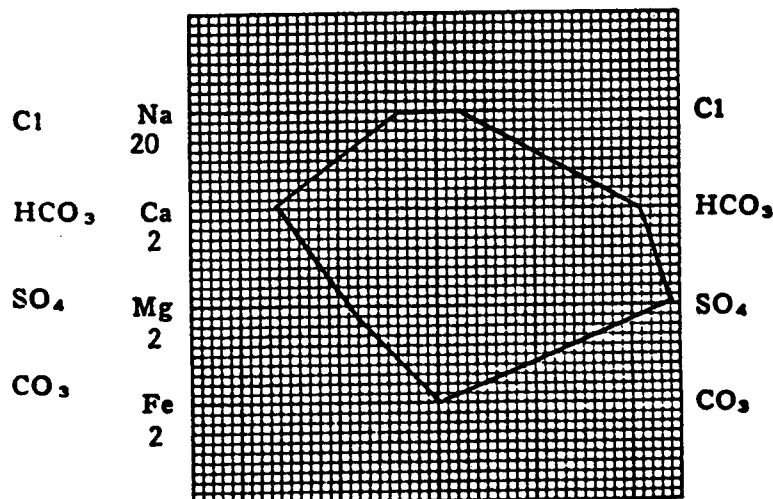
WATER ANALYSIS PATTERNS

MEQ per unit

LOGARITHMIC



STANDARD



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter. Meq/l=Milligram equivalents per liter
 Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components



CHEM LAB

WATER ANALYSIS EXCHANGE REPORT

MEMBER Amoco Production Company
 OPERATOR Amoco Production Company
 WELL NO. USA Hatch No. 1
 FIELD Wildcat
 COUNTY Garfield
 STATE Utah

LAB NO. 12598-3 REPORT NO. _____
 LOCATION SE NE 27-34S-2E
 FORMATION Tempoweeep
 INTERVAL 5098-5150
 SAMPLE FROM DST No. 1 (Middle - 4100')
 DATE May 9, 1974

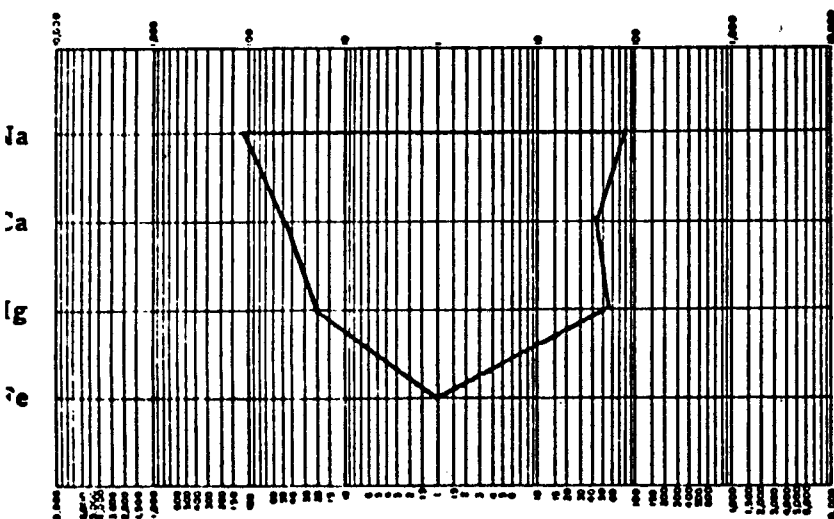
REMARKS & CONCLUSIONS: Very cloudy water with cloudy filtrate

Cations			Anions		
	mg/l	meq/l		mg/l	meq/l
Sodium	2392	104.05	Sulfate	2600	54.08
Potassium	423	10.83	Chloride	2900	81.78
Lithium	-	-	Carbonate	0	-
Calcium	906	45.21	Bicarbonate	2721	44.62
Magnesium	248	20.39	Hydroxide	-	-
Iron	present	-	Hydrogen sulfide	-	-
Total Cations		180.48	Total Anions		180.45
Total dissolved solids, mg/l 10809			Specific resistance @ 68° F.:		
NaCl equivalent, mg/l 9106			Observed 0.88 ohm-meters		
Observed pH 7.3			Calculated 0.74 ohm-meters		

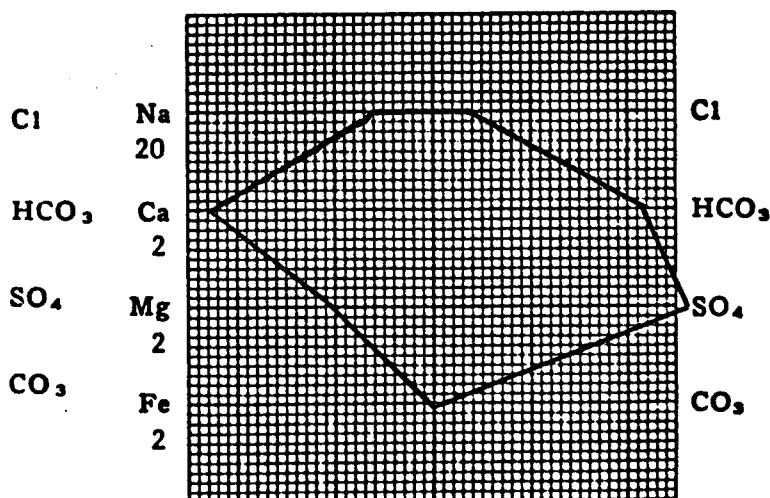
WATER ANALYSIS PATTERNS

MEQ per unit

LOGARITHMIC



STANDARD



(Na value in above graphs includes Na, K, and Li)
 NOTE: Mg/l=Milligrams per liter. Meq/l=Milligram equivalents per liter
 Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components



CHEM LAB

WATER ANALYSIS EXCHANGE REPORT

MEMBER Amoco Production Company
 OPERATOR Amoco Production Company
 WELL NO. USA Hatch No. 1
 FIELD Wildcat
 COUNTY Garfield
 STATE Utah

LAB NO. 12598-4 REPORT NO. _____
 LOCATION SE NE 27-34S-2E
 FORMATION Tempoweeep
 INTERVAL 5098-5150
 SAMPLE FROM DST No. 1 (Bottom - 5077')
 DATE May 9, 1974

REMARKS & CONCLUSIONS: Very cloudy water with cloudy filtrate

Cations	mg/l	meq/l
Sodium	2594	112.85
Potassium	468	11.98
Lithium	-	-
Calcium	886	44.21
Magnesium	272	22.36
Iron	present	-

Total Cations 191.40

Anions	mg/l	meq/l
Sulfate	2700	56.16
Chloride	3150	88.83
Carbonate	0	-
Bicarbonate	2830	46.41
Hydroxide	-	-
Hydrogen sulfide	-	-

Total Anions 191.40

Total dissolved solids, mg/l 11464
 NaCl equivalent, mg/l 9712
 Observed pH 7.0

Specific resistance @ 68° F.:

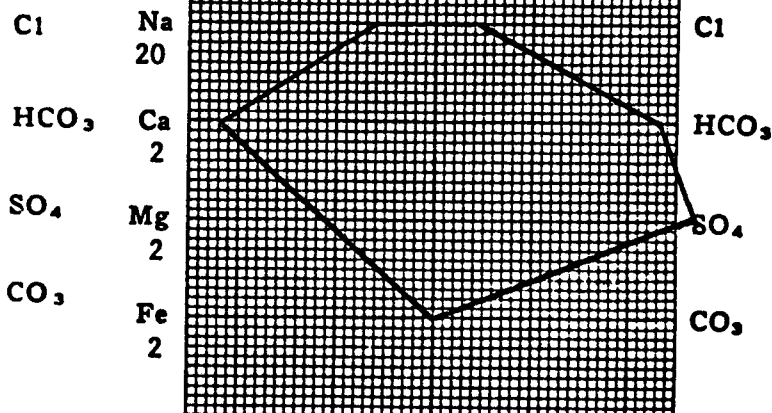
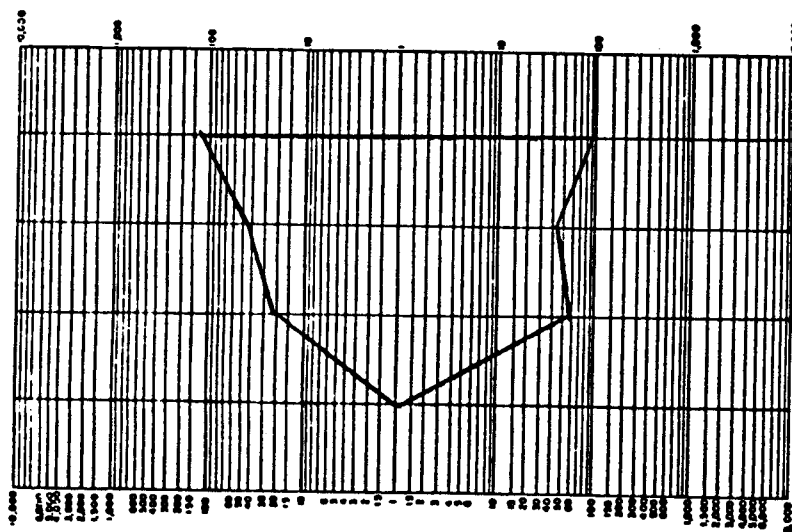
Observed 0.84 ohm-meters
 Calculated 0.68 ohm-meters

WATER ANALYSIS PATTERNS

MEQ per unit

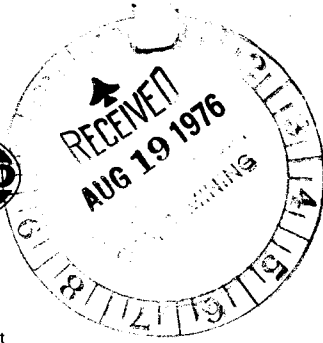
LOGARITHMIC

STANDARD



(Na value in above graphs includes Na, K, and Li)

NOTE: Mg/l=Milligrams per liter. Meq/l=Milligram equivalents per liter
 Sodium chloride equivalent=by Dunlap & Hawthorne calculation from components



will file

Amoco Production Company

Petroleum Center Building
501 Airport Drive
Farmington, New Mexico 87401

L

L. O. Speer, Jr.
Area Superintendent

August 16, 1976

Mr. Cleon B. Feight, Director
State of Utah
Department of Natural Resources
Division of Oil, Gas and Mining
1588 West North Temple
Salt Lake City, Utah 84116

File: LOS-296-535.11

Dear Sir:

Water Quality Analyses

This is in reply to your correspondence dated August 11, 1976, requesting available formation water analyses from all wells and test holes drilled in the State of Utah during the period July, 1972 to date. The USA Ronald A. Hatch No. 1 located in the SE/4 NE/4 of Section 27, T-34-S, R-2-E, Garfield County, Utah was the only well drilled by Amoco Production Company out of the Farmington Area office during this period. Only one DST was taken during the course of drilling operations on this unsuccessful wildcat well. Four water samples were obtained from the DST and submitted for analysis. A copy of each of the four water analyses reports is attached for your information.

If we can be of further assistance in this matter, please advise.

Yours very truly,

FLS/en
Attachments

TABULATION OF DEVIATION TESTS
USA RONALD H. HATCH NO. 1
AMOCO PRODUCTION COMPANY

<u>DEPTH</u>	<u>DEVIATION</u>	<u>DEPTH</u>	<u>DEVIATION</u>	<u>DIRECTION</u>
120'	1/4°	2205'	1/4°	
260'	1/4°	2607'	3/4°	
400'	3/4°	3011'	1-1/4°	
600'	1-1/2°	3480'	1-1/4°	
706'	2°	3894'	1-1/2°	
730'	2°	4040'	1/4°	
794'	2°	4440'	1-1/4°	
857'	1-3/4°	4846'	3-1/2°	
952'	1-3/4°	4960'	4°	
1043'	1-3/4°	5070'	4°	
1130'	1-1/2°	5124'	-	
1263'	1-1/2°		Sidetrack Hole	
1380'	1-1/2°	3720'	1°	S68W
1548'	2-1/2°	3776'	1-1/2°	S25E
1590'	2°	3810'	2°	E
1645'	2-1/4°	3841'	1-3/4°	N67E
1742'	2°	3874'	2-1/2°	N67E
1840'	2°	3904'	3-1/4°	N84E
1955'	1-3/4°	3935'	4°	N15E
2090'	1-3/4°	3966'	4-1/2°	N39E

